

CLAIMS

What is claimed is:

1. A steering column assembly comprising:
 - a steering column having a connection for receiving a steering wheel;
 - a column support coupled to said steering column for mounting said steering column to a support structure of a vehicle;
 - at least one electrical device operatively attached to said column support for an operator to control the vehicle; and
 - an on-board processor carried by said column support for receiving and consolidating signals from said electrical devices and having an electrical outlet for connection to a vehicle communications bus for sending data to and from the vehicle communications bus.
2. A steering column assembly as set forth in claim 1 wherein said at least one electrical device includes a steering sensor electrically connected to said on-board processor for sensing the rotational movement of the steering wheel.
3. A steering column assembly as set forth in claim 1 further comprising an accelerator pedal pivotally supported by said column support.
4. A steering column assembly as set forth in claim 3 wherein said at least one electrical device includes an accelerator pedal sensor electrically connected to said on-board processor for sensing a pivotal movement of said accelerator pedal.
5. A steering column assembly as set forth in claim 1 further comprising a brake pedal pivotally supported by said column support.

6. A steering column assembly as set forth in claim 5 wherein said at least one electrical device includes a brake pedal sensor electrically connected to said on-board processor for sensing a pivotal movement of said brake pedal.

7. A steering column assembly as set forth in claim 1 further comprising a display supported by said column support and electrically connected to said on-board processor for displaying the data.

8. A steering column assembly as set forth in claim 7 wherein said at least one electric device includes a selector switch electrically connected to said on-board processor for changing the data presented on said display.

9. A steering column assembly as set forth in claim 1 further comprising an energy absorbing (EA) mechanism electrically connected to said on-board processor for adjusting an energy absorption load of said steering column based on physical characteristics of the operator.

10. A steering column assembly as set forth in claim 9 wherein said at least one electrical device includes a fingerprint sensor electrically connected to said on-board processor for determining an identification of the operator of the vehicle.

11. A steering column assembly as set forth in claim 10 wherein said fingerprint sensor includes a memory for storing a record of said physical characteristics of the operator.

12. A steering column assembly as set forth in claim 11 wherein said fingerprint sensor sends said record of said physical characteristics of the operator to said on-board processor to adjust said energy absorption load of said EA mechanism.

13. A steering column assembly as set forth in claim 1 wherein said at least one electrical device includes an ignition switch electrically connected to said on-board processor for allowing starting of an engine of the vehicle.

14. A steering column assembly as set forth in claim 1 wherein said at least one electrical device includes a turn signal switch electrically connected to said on-board processor for activating turn signals of the vehicle.

15. A steering column assembly as set forth in claim 1 wherein said at least one electrical device includes a windshield wiper switch for controlling a windshield wiper of the vehicle.

16. A steering column assembly as set forth in claim 1 wherein said at least one electrical device includes a cruise control switch for controlling a cruise control system of the vehicle.

17. A steering column assembly as set forth in claim 1 further comprising a clockspring coil supported by said column support for providing an electrical connection between said on-board processor and the steering wheel.

18. A steering column assembly as set forth in claim 1 further comprising a knee bolster supported by said column support for protecting the operator in the event of an accident of the vehicle.

19. A steering column assembly as set forth in claim 7 further comprising an integrated bracket supported by said column support and having a first portion for supporting said steering column and a second portion for supporting said on-board processor and said display.

20. A steering column assembly as set forth in claim 19 further comprising a cluster mechanism supported by said first portion of said column support for mounting said at least one electrical device.

21. A steering column assembly as set forth in claim 20 wherein said cluster mechanism includes a clockspring coil for providing an electrical connection between said on-board processor and the steering wheel.

22. A steering column assembly as set forth in claim 20 further comprising a wireway for electrically connecting said cluster mechanism and said on-board processor.